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Transport Theory Based on the Nambu— Jona-Lasinio Lagrangian

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Starting from the (Polyakov-) Nambu-Jona-Lasinio Lagrangian, (P)NJL, we formulate a transport theory which allows for describing the expansion of a quark-antiquark plasma and the subsequent transition to the hadronic world —without adding
any new parameter to the standard (P)NJL approach, whose parameters are fixed to vacuum physics. This transport theory can be used to describe ultrarelativistic heavy-ion reaction data as well as to study the (first-order) phase
transition during the expansion of the plasma. (P)NJL predicts such a phase transition for finite chemical potentials. In this contribution we give an outline of the necessary steps to obtain such a transport theory and present first results.

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